

Nat'l Bee-Keepers' Convention at Los Angeles, Aug. 18-20

AMERICAN BEE JOURNAL



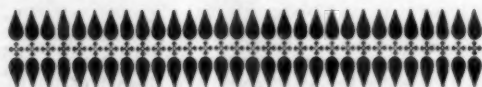
43d Year.

CHICAGO, ILL., MAY 14, 1903.

No. 20.



APIARY OF A. J. KILGORE, OF WOOD CO., OHIO.
(See page 308.)



THE AMERICAN BEE JOURNAL

PUBLISHED WEEKLY BY
GEORGE W. YORK & COMPANY

144 & 146 E. Erie St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

EDITOR,
GEORGE W. YORK.

DEPT. EDITORS,
DR. C. C. MILLER, E. E. HASTY, EMMA M. WILSON

IMPORTANT NOTICES.

The Subscription Price of this Journal is \$1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "dec03" on your label shows that it is paid to the end of December, 1903.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and credited.

Advertising Rates will be given upon application.

A New Bee-Keeper's Song—

"Buckwheat Cakes and Honey"

Words by **EUGENE SECOR.**

Music by **GEORGE W. YORK.**

This song was written specially for the Buffalo convention, and was sung there. It is written for organ or piano, as have been all the songs written for bee-keepers. Every home should have a copy of it, as well as a copy of

"THE HUM OF THE BEES in the APPLE-TREE BLOOM"

Written by
EUGENE SECOR and DR. C. C. MILLER.

PRICES—Either song will be mailed for 10 cents (stamps or silver), or both for only 15 cents. Or, for \$1.00 *strictly in advance* payment of a year's subscription to the American Bee Journal, we will mail both of these songs free, if asked for.

GEORGE W. YORK & CO.

144 & 146 Erie St., CHICAGO, ILL.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



The picture shown herewith is a reproduction of a motto queen-button that we are furnishing to bee-keepers. It has a pin on the underside to fasten it. Price, by mail, 6 cents; two for 10c; or 6 for 25 cents. Send all orders to the office of the American Bee Journal.



The Record

Began advertising experience as editor of Commercial Union.

Organized Western Agricultural Journals Associate List, "Leaders of the Great West and Star of the East."

Began Publication of Agricultural Advertising. Founded, named and edited it.

Organized and established The Frank B. White Company. Originated its policy formulated its methods and made it a success.

Increased capital stock of Frank B. White Company, enlarged its capacity and gave it a commanding position among the great advertising agencies.

Sold my interest in the Frank B. White Co. and began the publication of Class Advertising.

Organized WHITE'S CLASS ADVERTISING Co. under the laws of Illinois with a capital stock of \$100,000. Leased commodious offices in the Caxton Building and am prepared to originate, design and place class advertising and to do more business and do it better than ever before.

In the Light of the Past we go Forward Will you use our Light

"I know no guide but the lamp of experience," said Patrick Henry.

The lamp of my experience which in 1886 was like the faint glimmer of a tallow dip light has after being at it 17 years become the search light that illuminates the whole field of class advertising. White's Class Advertising Co. has secured the front half of the ninth floor of the Caxton Building, 334 Dearborn Street, Chicago, with more than 2,000 square feet of floor space which is being equipped with the most modern conveniences for the transaction of a modern advertising business along class lines. I shall be glad to talk about my special service system which was originated and developed by me and has been successfully used in behalf of many advertisers.

Frank B. White

Counsellor at Advertising

334 Dearborn St., Chicago

WHITE'S CLASS ADVERTISING Co. is the name of a new company recently organized here in Chicago, its object being that of placing advertisements in class papers—advertising agents in the agricultural line, principally. Mr. Frank B. White, who has had 17 years' experience in the business, is the president of the company; E. J. W. Dietz, vice-president; George W. York, treasurer; and W. C. Gray, secretary.

On the evening of April 30, the new company gave a banquet to some of its friends and stockholders, at the Union League Club of Chicago, there being nearly 80 present. Dr. C. C. Miller was there, to represent the bee-keepers. The above design, with reading enclosed in border, appeared at each plate. After the banquet board was cleared of its tempting viands, addresses were delivered

along the advertising line, with frequent very complimentary allusions to Pres. White, the host of the evening, whose high character and business ability among both advertisers and publishers are greatly appreciated. The Editor of the American Bee Journal has been closely associated with Mr. White for about 10 years, and is glad to be able to endorse all the good things said of Mr. White.

"Class Advertising" is the name of a handsome monthly magazine published by the Company. It is devoted to the advertising side of the business of manufacturing and putting on the market everything used by those engaged in rural industries. Every advertiser and every manufacturer of the goods indicated should read "Class Advertising" regularly.

The new Company starts out with excellent prospects of a bright and profitable business career. Any of our readers or advertisers who may need the services of such a concern will do well to consult them.

ESTABLISHED IN
1861
AMERICAN
BEE JOURNAL
THE OLDEST BEE-PAPER
IN AMERICA

43d YEAR.

CHICAGO, ILL., MAY 14, 1903.

No. 20.

* **Editorial Comments.** *

Hastening the Granulation of Honey is a thing that has hardly been desired in this country heretofore, the prevention of granulation having been the thing eagerly sought for. In Europe, however, the hastening of granulation has been more or less discussed for years. It is possible that in some cases it may be a matter of interest in this country. It is well understood that cold helps granulation. Occasional or frequent stirring is also a help, and it is said that frequent agitation gives a finer grain. Another thing that may be done to hasten granulation is to stir into clear honey a small portion of candied honey, the granules serving as so many centers from which granulation starts.

Phacelia in Germany.—A letter in *Gleanings in Bee-Culture* gives a glowing account of phacelia as a forage-plant in Germany; and many have praised it in the German bee-journals. It seems a little strange that no California bee-keeper has anything to say about it as a forage-plant, although it was introduced into Germany from California. The letter referred to is as follows:

Dr. C. C. Miller says, page 8, speaking of phacelia: "But no one has told us yet about its value as a forage-plant." A Mr. Karger, of Schreimbendorf, writes: Mr. L., a practical farmer, sowed about the middle of May, phacelia on a piece of ground that had been in potatoes the previous year. Notwithstanding the cold and wet weather it grew luxuriantly, and reached an average height of 32 inches. While the phacelia was in bloom, although Mr. L. fed it to cattle that had been getting grass and green clover, yet they ate it voraciously. He also noted an increase of milk in quantity and quality.

A Mr. Haunschild, of Klein-Sagewitz, says that a farmer of his place had seven acres of phacelia; after the first cut of red clover had been fed, the phacelia was cut while the second week in bloom. The cows ate it with eagerness, and could hardly get enough. I think the above testimony ought to be sufficient to encourage all those to a trial who would like to have a bee-plant that might be grown in quantity to fill out a gap in the honey-flow, while its value as feed (green or hay) would pay the farmer for his trouble and expense, apart from its value as a honey-yielding plant. Phacelia begins to bloom about six weeks after sowing, and care should be taken not to sow it too thick.

Giving Frames of Brood from one colony to another is a matter that requires some judgment. If the object be to strengthen the colony to which the brood is given, then the more mature the brood the better, for giving a frame of brood about ready to emerge is much the same as giving the same quantity of young bees a few days later. It must be remembered, however, that it is also the same as taking bees from the colony that furnishes the comb, and it is generally very poor policy to strengthen a weak colony at the expense of a stronger one early in the season.

There are cases, however, in which, even early in the season, there may be a decided gain by giving brood from one colony to another. Sometimes a colony is found with a good force of bees, but without a queen, or having a young queen not yet laying, perhaps just emerged. Give to such a colony as many frames of brood as the bees can cover, but let the brood be as young as possible. If you take from a strong colony a comb of eggs or very young brood, and then put in the middle of the brood-nest an empty comb, or one containing honey, it will be promptly occupied by the queen, and thus you will have at the end of three weeks the bees produced from two combs instead of the one. So long as you may think it desirable for any reason to continue a colony that has not a laying queen, you will find it

policy to furnish it with brood from other colonies, always as young as possible. If a young queen not yet laying is present, it is believed that the presence of young brood will in many cases hasten her laying.

Bees as Messengers.—Perhaps two or more years ago accounts were given of experiments across the sea in which bees were used somewhat as carrier pigeons, and now a clipping from the *Toledo Blade* has been received which probably refers to the same experiments. M. Tagnas fastened pieces of paper to bees at a distance from their homes, and when they returned to their hives they could not enter because the entrance was made too small for them to pull the paper through. The success of the experiments was based on the ascertained fact that bees would find their homes at a distance of 4 miles.

The likelihood is that there has been nothing new in this line, and that the old item has simply been furnished up for the sake of filling up. A bee would hardly find its home at a distance of 2 miles, much less 4, unless it had previously been over the same ground, and encumbered with a weight the distance would be still shorter. It is not likely that bees will ever be regularly employed to carry messages.

Hatching Eggs Over Bees.—We have received the following on this subject, which was up several years ago:

EDITOR YORK:—I enclose you a clipping to ascertain whether you can substantiate the statements therein made. As I keep poultry in connection with bees, it is quite a discovery, if true.

Kitsap Co., Wash.

W. F. BRAGG.

The clipping sent by Mr. Bragg reads as follows:

HATCHING EGGS WITH BEES.

John Norton, of Illinois, has, for several years, been interested in bees, and has given them and their habits much study. It was this study that led Mr. Norton to devise one of the most interesting, and at the same time, most practical schemes of modern poultry culture. It is nothing more nor less than the hatching of thrifty and strong chickens in hives with the bees.

In watching the daily life of the busy insects, Mr. Norton noted that they laid and hatched eggs. It at once occurred to him that if bees' eggs would hatch, that the eggs of hens might also be quickened into life under the same conditions. He began experimenting, and with the final result of a practical, perfect, and cheap incubator. It is made as follows: A common hive is built with double walls, the dead space being filled with chaff in order that changes of temperature without may affect as little as possible the temperature within. Upon this hive is placed the common box cap that usually forms the second story of a hive, and which contains the honey of commerce. The main hive is filled with small boxes so familiar to all, and these contain the brood-comb and a supply of honey. Over these boxes is placed first a piece of oil-cloth and second a cloth blanket. Upon this blanket the eggs are placed, and above them two bags of chaff, filling the top, and so arranged that there is a slight cone of vacant space beneath the bags in the hive. The eggs, having been placed in the hive, are left to the care of the bees. The heat from the bees below, and from the brood-comb, keeps the eggs warm, and they hatch in exactly the same time as beneath a hen. No matter what the temperature without, that within never varies half a degree. If it grows cold the bees begin to devour the honey and give off heat. If it becomes warm without, the bees create a draft with their wings, and maintain an even temperature.

From 50 fertile eggs, at three different times placed in the hive, Mr. Norton has hatched 50 strong chicks, a record seldom equalled by hen or incubator. The eggs require no moistening as in an incubator. They need only to be placed there and allowed to remain till the period of incubation is passed. The chicks, as they hatch, crawl into the little cone-like space between and under the bags of chaff, and are found hungry and happy when the hive is opened. Mr. Norton is to be congratulated on the success of this experiment.

We sent the foregoing to Dr. C. C. Miller, who has this to say about it:

I read that clipping to a friend who is somewhat familiar with both bees and poultry, and after reading it I said, "What do you

think of it!" The answer came very promptly, "I don't believe it." I am strongly inclined to the same way of thinking. There have been reports of hens' eggs being hatched out over a bee-hive, but that a bee-hive could come into successful competition with a good incubator or a respectable biddy seems very doubtful. If eggs need turning in an incubator or under a hen, why should the turning not be needed over a colony of bees? The heat might be sufficient in a spell of very hot weather, but in a chilly night it is not very likely that the heat from a colony of bees would be sufficient to answer. Of course, I don't know; I'm only saying how it looks to me. One thing gives away the story as being written by some one not well versed in bee-matters: "The main hive is filled with small boxes so familiar to all, and these contain the brood-comb and a supply of honey." That is, the brood-chamber is filled with sections! C. C. MILLER.

And now comes Dr. G. P. Hachenberg, of Travis Co., Tex., who gives his experience as follows:

EDITOR YORK:—After carefully testing the temperature of a small colony of bees confined in one story, I placed a layer of fresh chicken eggs in the bottom of the second story, loosely wrapped in some woolen flannel. The eggs were separated from the bees with a newspaper, and carefully dated, so as to be sure to have them removed after the period of their incubation. They were set at large before the shells were fully broken, to guard them against the attack of the bees. The eggs required occasional turning, but no moisture.

In regard to the nursing of the little chicks, I had at the same date on the eggs set a hen with about 15 eggs with like date. These would come to maturity about the same time. After the chicks were hatched by the bees they were united to those of the hen, making in all a brood of 25 or 30 little chickens. These large broods are often seen in this climate, uniting the broods of one or more hens, and putting them under the care of one hen.

Some years ago I think I reported to you having a hen hatching eggs close to a bee-hive; the object was to prevent a valuable dog from eating the eggs. The dog had a great horror of bees, and he never went near those eggs, and the experiment proved a success. G. P. HACHENBERG.

When doctors disagree, who shall decide? We can't act as umpire in this game. Mr. Bragg would better try it for himself.

Association Notes.

MR. WM. A. SELSER, of Philadelphia, Pa., has been appointed by the Executive Committee of the National, to succeed the late Thomas G. Newman, as member of the Board of Directors.

MR. UDO TOEPFERWEIN, of San Antonio, Tex., has been appointed by the Executive Committee of the National, to succeed Mr. A. I. Root, as member of the Board of Directors. Mr. Root resigned recently.

THE CHICAGO NORTHWESTERN CONVENTION REPORT will be resumed after publishing the proceedings of several other conventions which can be disposed of at the rate of about one a week. After that the Chicago-Northwestern will be continued until completed. We have copy of all the last day's proceedings, which are very interesting indeed. We regret that we have not the room to spare to finish up a lengthy report in a less number of issues. But sweetness long drawn out is best sometimes, we suppose.

HURRAH FOR ILLINOIS!—The State Legislature has passed the Bill in the interest of bee-keepers in this State. The last we heard it needed only the signature of the Governor to make it a law. The Illinois State Bee-Keepers' Association has full charge of the \$1,000 provided in the Bill, and also the expenditure of the same.

The provisions of the Bill are quite general, so that the funds can be used for various purposes for the benefit of bee-keeping in the State. We have no doubt that the officers of the State Association will see that it is expended wisely, and that much good will result from its use. We think the first thing needed is to provide one or more foul brood inspectors, who shall visit apiaries diseased, and thought to be diseased, and thus endeavor to rid the State of foul brood, or any other bee-disease as rapidly as possible.

We give herewith a copy of the Bill as passed:

A BILL

For an Act making an appropriation for the Illinois State Bee-Keepers' Association.

WHEREAS, The members of the Illinois State Bee-Keepers' Association have for years given much time and labor without compensa-

tion in the endeavor to promote the interests of the bee-keepers of the State; and

WHEREAS, The importance of the industry to the farmers and fruit-growers of the State warrants the expenditure of a reasonable sum for the holding of annual meetings, the publication of reports and papers containing practical information concerning bee-keeping, therefore, to sustain the same and enable this organization to defray the expenses of annual meetings, publishing reports, suppressing foul brood among bees in the State, and promote this industry in Illinois:

SECTION 1.—Be it enacted by the People of the State of Illinois represented in the General Assembly: That there be and is hereby appropriated for the use of the Illinois State Bee-Keepers' Association the sum of one thousand dollars (\$1,000) per annum for the years 1903 and 1904, for the purpose of advancing the growth and developing the interests of the bee-keepers of Illinois, said sum to be expended under the direction of the Illinois State Bee-Keepers' Association, for the purpose of paying the expenses of holding annual meetings, publishing the proceedings of said meetings, suppressing foul brood among bees in Illinois, etc.

Provided, however, That no officer or officers of the Illinois State Bee-Keepers' Association shall be entitled to receive any money compensation whatever for any services rendered for same.

SEC. 2.—That on the order of the President, countersigned by the Secretary of the Illinois State Bee-Keepers' Association, and approved by the Governor, the Auditor of Public Accounts shall draw his warrant on the Treasurer of the State of Illinois in favor of the Treasurer of the Illinois State Bee-Keepers' Association for the sum herein appropriated.

SEC. 3.—It shall be the duty of the Treasurer of the Illinois State Bee-Keepers' Association to pay out of said appropriation, on itemized and receipted vouchers, such sums as may be authorized by vote of said organization on the order of the President, countersigned by the Secretary, and make annual report to the Governor of all such expenditures, as provided by law.

MR. N. E. FRANCE, General Manager of the National Bee-Keepers' Association, informs us that several members whose bees have become an annoyance to neighbors, have had legal proceedings begun against them to remove their bees. They now want the National to stand by them. Mr. France says that first he must know the whole history of each case before he can advise the best procedure. He says that too many have bees in cities that are an annoyance, and can and should be removed, or the public protected in some way. He is for peace and good neighbors, employing lawsuits to settle matters only as a last resort.

Several large bee-keepers' associations have lately sent in the dues of their members.

Mr. France is after a honey-adulterating firm. He says he has good evidence, and will soon "come down" on them.

Mr. France is doing all he can to push the work of the National. He is indeed a very busy man, as a good General Manager properly should be if he does all that needs to be done in order to make the Association effective in the interest of its members.

* The Weekly Budget. *

MR. JOHN NEBEL, senior member of the firm of John Nebel & Son, of High Hill, Mo., died May 5, in his 70th year. The old bee-keepers seem to be fast passing away.

THE APIARY OF A. J. KILGORE appears on the front page this week. When sending the photograph Mr. Kilgore wrote as follows:

I have 34 colonies in good condition. They are kept on the rear of my lot. The picture shows the rear end of the house; it shows also myself, but I am not particular about calling especial attention to this part of the picture. The small trees shown are fruit-trees—cherry, apple, pear, plum, and apricot.

I have kept bees more or less for 40 years, and find great pleasure in working with them, and in the study of their habits. The summer of 1901 was good for honey-production; my bees then averaged 96 pounds of comb honey per colony; but the summer of 1902 was very unfavorable, the average being about 30 pounds of comb honey. The fall flow, however, was good, so they laid in sufficient supply for winter.

I winter the bees on the summer stands packed well in planer-shavings. I have had a few cases of foul brood, but I treated them very successfully by the McEvoy plan. I rear my own supply of queens, buying one only occasionally to get a little fresh blood. I keep no queen more than two years, exchanging them for young ones. This I consider a very important item in the profitable management of bees.

A. J. KILGORE.

Mr. Kilgore certainly has a beautiful home. He looks happy and contented with his lovely surroundings.

Convention Proceedings.

Report of Vermont Bee-Keepers' Convention.

BY M. F. CRAM, SEC.

The meeting of the Vermont Bee-Keepers' Association was held at South Hero, Jan. 28, 1903. It was a joint meeting with the Horticultural Society, they holding their meeting the day before, and the last evening there was a joint discussion between the two societies.

The bee-keepers' meeting was opened with a song by Prof. W. N. Phelps, entitled, "Good Old Summertime;" prayer was offered by Mr. Story; the minutes of the last meeting were read and approved, and the following committees were then appointed:

On Nominations—V. V. Blackmer and R. H. Holmes.

On Resolutions—M. F. Cram and H. L. Leonard.

REQUEENING AND OTHER MATTERS.

R. H. Holmes begged leave to digress from his subject a little at the beginning. Grand Isle County is a great place for fruit-growers and bee-keepers. The best bees are what we want for the fertilization of fruit. The islands are long enough for any bee, but not wide enough for large apiaries, but every fruit-grower should keep a few colonies of bees for the fertilization of fruit.

Some young men should keep on hand all the bee-supplies, so that any one can go there and get them.

Beginners should not buy high-priced bees, but should requeen later, if thought best. When a queen becomes worthless the apiarist should destroy it and give the colony another queen, or brood from which to rear one. The better way would be to buy a queen of some good, reliable breeder. Beginners should not get more than two colonies to start with, but should procure one or two standard books on apiculture.

Mr. Brodie, who is in the employ of the Canadian government, gave a talk on the "Spraying of Fruit-Trees." He said trees should be sprayed before the blossom is open, and again soon after the blossoms fall, but never while in bloom. The water would injure the fruit, even if there were no arsenoids in it.

VALUE OF BEES TO THE FRUIT-GROWER.

"Of what value are the bees to the fruit-grower?"

Mr. Leonard said that the bees carry pollen from one blossom to another, thereby causing the fruit to set. He also said that small bees helped some in this work, but honey-bees did the best of all. Trees have been covered, thereby excluding the bees, but such trees produce no perfect fruit.

Mr. Cram spoke of the value of bees in raising buckwheat. The more honey you get the more grain you get. One man in Virginia thought he could get rich raising pear-trees. He set out a large number of Bartlett pear-trees. He got no pears, for the reason that his pears were all of one variety. He sold out to another man who tried it, but with the same result. He sold to a man who set out another variety of pear-trees, thereby obtaining a cross-fertilization of the two kinds by means of the bees, and obtained an abundance of fruit. He said he had a plum-tree which had never borne any fruit, with the exception of a few scrubs. Last spring he broke a branch from another tree and hung it in that one, and obtained an abundance of fruit.

The Italian bees are the best fertilizers for clover, while the black bees are the best for buckwheat.

SHAKEN SWARMS—SAINFOIN—COMB FOUNDATION.

Mr. Blackmer said he preferred to let bees swarm naturally.

Prof. Shutt—On the Experimental Farm at Ottawa, Canada, John Fixter, the man who runs the station, said sainfoin was a very good plant for honey. Prof. Shutt said he had tried several experiments to see if bees would injure fruit, but he had never known bees to injure sound fruit.

In his remarks about foundation he said if we use very thin foundation the bees have to manufacture wax. If it is too thick it leaves a "fish-bone;" the medium-weight foundation being the best.

Unripe honey had done some damage to the market. Extracted honey had been known to absorb 15 to 20 percent

of water, and usually had 15 percent when taken from the bees. Honey should be kept dry and warm.

The afternoon session opened by two recitations from C. W. Scarff, one entitled, "His Uncle Hi's Sunshine Factory," and the other, "When I Get Rich," both of which were very entertaining.

The secretary's and treasurer's reports were read and approved.

THE PRESIDENT'S ADDRESS.

Another year has rolled around since last we met to talk over together our mutual interests as bee-keepers, our hopes and fears, our progress and our failures.

The past season in northern New England was quite unusual. Not since 1872 have we had such a rainy summer, and even that unusual summer was less cold than the past season, and yet, notwithstanding the cold and wet, the bees, as a rule in northern New England, have done well, having stored enough for winter, and surplus sufficient to repay their master for his timely care and attention.

We are in many respects highly favored here in Vermont, so far as concerns the health and vigor of our bees. While in most of our Northern States foul brood has been and is still doing great harm to bee-keeping interests, our State, so far as I know, is entirely free from this dread disease. It is true that what is known as "pickled brood" has made its appearance, but, so far, has done far less harm than was feared when it first appeared.

For the best grades of honey the price has ruled higher the past few months than for several years past. While this may be in part owing to light crops in other sections, there is reason to believe that the general prosperity of the country has much to do with it.

There is also a growing demand for honey as a wholesome and delicious article of food, in many families where it was in the not distant past unknown.

A few years ago it was almost unknown in the grocery trade. To-day no well-equipped grocery store is without it. There appears also to be an intelligent and growing demand for extracted honey, and I have noted with some satisfaction that our Vermont extracted honey sells higher than any other in our larger cities. We might perhaps have expected this while Vermont comb honey is preferred to any other brand.

There has been, I am sure, some advance the past year in the improvement of our stock. Recent study has shown very conclusively that there is as much difference in a given number of colonies of bees as regards their productiveness as there is in the same number of dairy cows. Our best apiarists are taking advantage of this fact, and breeding from their most productive stock. And while we can not, as yet, control the mating of our queens as with other domestic animals, I believe we can improve our bees quite as fast by rearing our queens from selected stock.

While we have no reason to complain or take a pessimistic view of the future, yet there are some things we may as well frankly admit as not altogether hopeful. The noble linden trees—the pride of our forests—are fast disappearing before the ax of the lumberman. We feel quite sure that the new growth does not nearly make good that cut down from year to year. Whether alsike clover, which has become fully naturalized in our Champlain valley, will make the loss of basswood good, it is yet too early to decide. I believe it will go a long way towards it. It winters much better than white clover, and, when sufficiently wet, comes up in old meadows, along the roadside, and in unlooked-for places, as well as in well-tilled fields where the seed has been sown by the hand of man. I have no doubt that during the past season there were several thousand acres of this clover within range of my bees, to say nothing of white clover and other honey-yielding plants.

Much may be done, however, to retain our basswood forests. I know one extensive bee-keeper who has purchased a large block of land near his home that he may control the growth of basswood now standing, as well as the young trees that come up freely and mature rapidly when protected by larger trees. This will furnish basswood bloom as well as wood and timber for untold time.

The production of alfalfa honey in more than a half dozen of our Western States, is a fact that must be reckoned with. In a recent business trip through Nebraska, Wyoming, Idaho, Utah and Colorado, I was surprised at the rapid strides that are being made in the cultivation of this valuable forage-plant.

The Rocky Mountains may be to-day considered as one vast cattle-pasture, while the valleys, where water can be had, are covered with alfalfa. More than this, east of this grand range of mountains, is a broad belt too dry for corn

or grain or Eastern grasses where this dry-weather clover seems to thrive most luxuriantly. And I hardly need to add that it furnishes food for bees as well as for cattle and sheep. Already alfalfa honey is more abundant than the far-famed white sage of California. The population of these alfalfa States is sparse, and most of the honey comes East in car-load lots. A few years since, I went to a large dealer in one of our New England cities, hoping to sell him my entire crop. Although early in the season, I found him stacking up a car-load of honey from Colorado, which he had bought. Suffice to say I did not sell my own.

Alfalfa honey, both comb and extracted, is beautiful to look at; as white or whiter than our best basswood honey, with a flavor, to my mind, much inferior to our clover or basswood. It granulates quickly, which may account for its being regarded with less favor than Eastern honey, and selling for a less price. I do not, therefore, believe it can compete with our comb honey. It may be different with extracted honey.

During the last two or three years a renewed interest has sprung up in bee-keeping in Cuba, and many bee-keepers have gone to that wonderful island to engage in their favorite pursuit, and are building up apiaries with marvelous productiveness. What the results will be no one can tell. The honey is probably not equal to our Northern honey. The great bulk of it is extracted or "strained," and finds a market on the other side of the broad Atlantic. But the Yankee bee-keeper in Cuba is not satisfied with two cents a pound for his honey, although produced in great abundance, and already he is shipping comb honey to New York. Upon his success in this venture will depend in some measure the future price of honey during the latter part of winter, at least. How well we may be able to meet this influx of honey from Cuba and the far West, is a question for our consideration and most careful solution. One way I will at this time suggest, is the opening up of new markets, or increasing the demand where it is already known. In 1860 the New York market was broken down by what was then considered an enormous amount of honey—20,000 pounds. To-day that market will take hundreds of thousands of pounds of honey without a thought of being overstocked.

There is, I believe, a good and growing demand for extracted honey for table use, and this should be encouraged, as honey in this form is of almost as great value as food as butter at half its cost in the open markets.

During the past season I have made some experiments in securing white combs, or, rather, in preventing travel-stains, with fairly good success. The past season has been bad for the staining of combs, and yet, with a large number, I was able entirely to prevent it, or greatly reduce it, by the use of a properly constructed honey-board. I disliked to use or try even this remedy, fearing it would reduce the amount of surplus, but I have not found any serious objection.

My experience, the past year, with bleaching combs somewhat stained, has been quite satisfactory, thereby placing some six or seven thousand combs into the first grade, that otherwise would properly have been placed in a grade below.

I am also well pleased to state at this time that I am quite satisfied with the plain section and fences, giving bees free passage-ways around the edges of sections, as well as through the fences from one to another.

During the last few months some considerable space, in some of our bee-papers, has been given to the discussion of brushed swarms, or, more properly, forced swarms, for the purpose of preventing natural swarms. From my experience along this line I am led to believe that it at least promises well. Having practiced it to some extent for many years, I believe it is of much value in yards of bees that we can not visit more than once a week; that it will to a large extent control swarming, and at the same time give us a fair yield of honey.

J. E. CRANE.

Mr. Leonard wished to know whether sunshine would bleach combs without the use of sulphur. Mr. Crane said it could, but not as easily, nor is it as practical as with sulphur and common light.

A BEE-KEEPER'S TRADE-MARK—OTHER SUBJECTS.

Mr. Leonard said that a bee-keeper certainly should if he is an honest and practical man. The Government should make people mark their honey, and all other produce. Honey should not be faced, but should all be alike in the same case.

Mr. Crane would store honey in a chamber; high temperature is the best place in which to store.

How best to destroy queen-cells? Cut them out with a knife.

What is the cost of a queen-bee? From three to five dollars.

How shall we treat the new swarm so it will be less likely to start for Canada? Hive it in a clean hive, put in foundation or drawn comb, if you have it, or a frame of brood from some other swarm, and without queen-cells, is better still. Remove to a shady place as soon as hived; the farther from the place where they clustered the better.

A committee appointed one year ago to see if the bee-keepers and horticulturists would unite, reported it not practical.

V. V. Blackmer gave an interesting account of his six years' experience in bee-keeping in Florida. How the first winter he was there the big freeze came which wiped out thousands of acres of orange-groves, and killed nearly all of the honey-producing plants, and for the last eight years the bees have hardly made a living over the greater part of that State.

A vote of thanks was tendered the Canadian friends for their help in this convention.

Mr. Crane gave a talk on "Improving the Honey-Bee."

The committee on nominations reported the following: President, O. J. Lowrey; Secretary, V. V. Blackmer, of Orwell; Treasurer, H. L. Leonard; Vice-Presidents: for Addison Co., G. C. Spencer; Orange Co., M. F. Cram; Rutland Co., V. N. Forbes; Lamoille Co., E. K. Seaver; and Chittenden Co., C. M. Rice.

The committee on resolutions made the following report:

"We, the members of the Vermont Bee-Keepers' Association, do hereby tender our most sincere thanks to the people of South Hero for the very cordial reception they have given us, and for their bounteous provisions for the inner, as well as the spiritual and social, man.

"We would also thank our visitors from over the Canadian line for the insight they gave us into the doings of their Government—in our as well as kindred pursuits.

"Also to Prof. L. R. Jones for his address, and to the railroad companies who granted reduced rates to the convention."

M. F. CRAM, } Com.
H. L. LEONARD, }

Contributed Articles.

No. 3.—"Scientific Queen-Rearing" Book Combines All.

BY G. M. DOOLITTLE.

I HAVE waited since writing what I did on page 569 of the American Bee Journal for 1902, for the "smoke of battle" to clear a little on the queen-rearing subject, to see just what would be brought out in this matter. Many good things have been said, and many valuable ideas brought to light, the same being somewhat mixed with extravagant assertions, and, in some instances, rather immoderate language. For the good ideas and valuable things brought out, all ought to be extremely thankful. I believe that I, for one, have been much profited by this discussion, and wish here and now to thank those who have spent their time and talent in writing up this matter for the readers of the "oldest bee-paper in the world."

Then I see that some errors have crept into the minds of some, one of which is that Dr. Miller and others seem to think that Doolittle fully endorsed the "umbilical cord" idea, advanced by Dr. Gallup. This was not my intention, for I never claimed to know what the attachment was that I found holding the imago queen to the royal jelly. I had always supposed that it was Nature's means to keep the immature queen from resting on her head while she was being perfected in the cell, until I read the opinion of Dr. Gallup, and I am quite inclined to that opinion still. What I did intend to show was, that if there was any virtue in that "missing link" matter, such virtue was always present where queens were reared by the plan given in "Scientific Queen-Rearing;" and that Dr. Gallup was mistaken in

classing all queens reared by that plan among those he called worthless. And I think those who read aught else into what I said on page 569 (1902) will see their mistake by turning to that page and reading the matter over again.

In fact, I cannot see that all this write-up does little more than to emphasize the principles as laid down in the book above referred to, doing this by laying a little stronger claims to these principles than was done in the book. Gallup's whole claim is based on queens being reared in rousing colonies at a time when the bees are inclined to rear queens, either from the swarming impulse, or from superseding of queens. And this is just the ground taken by the writer of "Scientific Queen-Rearing." So my old teacher, and the author of "Scientific Queen-Rearing," agree exactly. All the author does is to show how queens can be reared by the Dr. Gallup way at the will of the apiarist.

Mr. Alley claims that the best queens can be reared by giving eggs or larvæ to rightly "conditioned" nurse-bees which, with or without the help of other colonies, nurses and care for this brood so given, that the best of long-lived queens are produced. This point is also covered by "Scientific Queen-Rearing," in that it provides for these same nurse-bees, *rightly conditioned* to produce perfect success in their manipulation of the little larvæ given them to mature into the best of long-lived queens; and does the same with less effort on the part of the apiarist than is necessary where the bees to build the cells must be sought out, "scientifically treated," confined in a box for a certain length of time, etc.

Then it exactly fills the bill of Mr. Riker, in that it provides for a laying mother being present at just the time when bees rear only queens which give those long-lived workers which hold out during the *whole* honey harvest, that enables the apiarist to secure the full results of the honey-flow, and which could not be obtained by queens giving bees with shortened lives.

In short, the plan given in "Scientific Queen-Rearing" combines the large hives with rousing colonies under the "swarming or superseding impulse," which "manufacture a large amount of electricity, heat or vitality," of Dr. Gallup; the "conditioned" nurse-bees, wanting a queen, of Mr. Alley; the rearing of queens when the "mother is present," of Mr. Riker; the selecting of those of the "proper age" for queen-rearing without interference of "older bees," of Messrs. Pratt and Simpson; and the "temperature and humidity," through plenty of nurse-bees and food in abundance, (from feeders when the same was not coming from the fields), of Mr. A. C. Miller; and is perfectly adapted to the wants of any bee-keeper, from the one having only two or three colonies, up to the one numbering his colonies by the hundreds or thousands. And there need be no limit as to size of colony used, in the large direction. Dr. Gallup's biggest colony can be used just as successfully as can one fully occupying a 10-frame hive, or one just ready to swarm in a two-story 8-frame hive. Just slip in a queen-excluding division-board, so as to enclose from three to five frames of young brood in the warmest part of the hive, thus shutting the queen away from them, and you are ready to proceed at once in rearing queens of the highest grade possible to obtain under any of the conditions named by any of the plans or theories advocated by any one during the past five years; and those which will be just as long-lived and give just as long-lived workers.

The principle is the same, whether we use upper stories with a queen-excluder between; a very strong colony with three or four frames of young brood shut away from the queen, by a queen-excluding partition being slipped down into the hive; or the same number of frames of young brood being shut away from the queen in the center of one of Dr. Gallup's big colonies in his 40 or 50 frame hives. And it would take quite a stretch of imagination for one who has *carefully* read "Scientific Queen-Rearing," to conceive the idea that the author claimed that the reason that perfect, long-lived queens were reared by that plan, "was just because cell-cups are used." Yet some are trying to prejudice against the plan on those very grounds. The cell-cups are only a *convenience*, not a necessity. I have reared just as good queens by this plan with strips of comb having eggs and young larvæ in the cells, killing every other, or two out of every three larvæ, *a la Alley*, and with larvæ transferred into every other cell of a strip of drone-comb, as recommended by others; but, as a whole, neither of these are nearly so convenient as the cell-cups.

Some seem to think that nothing has been said or written about long-lived bees and queens till of late. This is not so. Dr. Gallup does not stand alone in this matter, neither is it a new thing. This part has been emphasized

during the past, by one of Canada's greatest honey-producers, Mr. J. B. Hall; also by Mr. Riker, Doolittle and others; but if I am right, Mr. Hall was the pioneer in calling attention to the matter. There is great advantage in such queens and bees, especially where the latter are reared with an eye on the coming harvest.

Regarding the many queens purchased by Messrs. Gallup and Alley being worthless, I take it they were speaking metaphorically. I cannot think they fully meant what their language would convey. As Dr. Gallup alludes to the matter of an exchange of queens between him and Dr. Hamlin's best and prolific queens proved in the other's hands to be the same worthless degenerates (?), which would not keep two or three frames filled with brood with all the coaking at these Doctors' command, these queens being similar after the exchange to those which have been so roundly and immoderately condemned, it would appear that such language conveyed more than was really intended.

And as proof of this I will say that I had one of those worthless (?) Hamlin queens sent me as a premium for securing the most subscribers to a certain bee-paper in a given time. The queen came in June, and as she was from one of the best breeders of the seventies, I thought to give her the best possible chance, which I did. Imagine my surprise to find that with all my extra care and coaxing, I could get her to put eggs in only three Gallup frames, and very scattering at that. I came very near pinching her head off in the fall, but finally concluded to give the colony frames of brood and honey from other colonies, and thus the colony was gotten through the winter. The next season she proved no better than she had the year before, and I have no doubt Dr. Gallup would have called her a "worthless degenerate," and Mr. Alley would have alluded to her as "worthless as a house-fly." Was she thus? Well, we shall see.

I had her in my hand one day, being just about to pinch the life out of her, when the thought arrested me, that Dr. Hamlin would not send me a worthless queen as a premium, and that I would rear a few queens from her, which thing I did, she dying soon afterward, of apparent old age. All of these young queens proved to be extra good ones, and one of them was the mother of the colony which gave me 566 pounds of honey in 1877, and was used in laying the foundation of my present apiary. 466 pounds of this honey sold at 20 cents-per pound, and 100 at 15 cents, the total cash resulting from that colony that year being \$108.20. Was her mother worthless? Quite a "house-fly," wasn't she? Stood way up by the side of the best of cows as to value! The honey sold from this colony during that year amounted to \$8.20 more than Mr. Alley prized his \$100 queen at, and lacked only \$91.80 of giving as much cash in a single year as the celebrated Root long-tongued queen was ever valued at. And yet, if I do not misinterpret Dr. Gallup, he would no more have bred from that Hamlin queen than he would from those two imported, worthless (?), degenerate (?), house-fly (?) queens he got of A. I. Root, which he tells us about on page 423 of the American Bee Journal for 1902.

Right here is where many purchasing queens make a great mistake: If the purchased queen does not almost immediately outstrip anything they have in their apiary, she is condemned at once as a *breeder*, if her head is not pinched. I have had scores of letters telling of queens purchased from different queen-breeders which did not do well in the purchasers' hand, they condemning the breeders for sending out poor, worthless queens. I generally write asking if they have reared any young queens from them, and the reply generally is, "No, I killed the queen," or, "She is not worth breeding from." A few have been persuaded to breed from these seemingly worthless purchased queens, and I have several letters in my possession thanking me for insisting on their breeding from these *apparently* poor queens, for thereby they have some of the finest queens they ever possessed.

Too much emphasis cannot be laid on the fact that it is the *daughters* of the purchased queen which tell of the value of the mother. And this is a subject which is also treated on in "Scientific Queen-Rearing." Had those parties who reported to Dr. Gallup that "Doolittle's queens did not turn out right," bred from them, it is barely possible that they might have found out that they had something similar to what I had in that Hamlin queen. My advice to all is not to condemn a purchased queen till you see what her daughters will do. If such daughters all appear to be poor, then it would be quite reasonable to decide that their mother was truly worthless.

And now, in closing this already too long article, allow me to repeat that I am in no financial way interested in

"Scientific Queen-Rearing." I have written what I have in favor of the book, because I fully believe that the bee-keeper who follows its teaching will be benefited thereby, in that he or she will be enabled to rear queens superior to those reared in any other way. Onondaga Co., N. Y.

[We mail "Scientific Queen-Rearing" for \$1.00, bound in cloth, or 60 cents in leatherette binding. The cloth-bound book we club with the American Bee Journal one year—both for \$1.60; or the leatherette-bound book and Bee Journal one year—both for \$1.40.]



Putting Unfinished Section on the Hives.

BY ARTHUR C. MILLER.

RECENTLY, Miss Emma Wilson entered a protest against the use of sections containing combs in which honey of the previous season had been allowed to granulate. In the Journal for April 23, Mr. Doolittle combats the idea that the use of such sections is in any way harmful. When the doctors disagree the patient suffers. In this case I think the secret of the trouble has been missed by both.

It is, I believe, the usual practice to give such sections to the bees, in the supers, when the latter are put on for the surplus. It is Mr. D's practice to have them cleaned out in the spring at considerable pains and cost. Ordinarily the sections reach the bees when they are ready to add honey to that already in the combs, and of course such mixed honey is bound to granulate early. Sometimes, when the old honey has slightly soured, the whole of the new honey in that section is turned enough to spoil it. Also some of the neighboring sections are sometimes affected by the transfer to them of the acid honey, such transfer being more likely when the flow is intermittent on account of storms, cold, etc. Few bee-keepers realize how much bees move honey about in the hive. Mr. F. B. Simpson first called my attention to this, and it is a most valuable discovery—I mean the extent of the practice.

When honey is coming in with a rush such transferring is lessened, but if it is coming in fast enough to have any put into the sections, the bees will not remove and clean out the old even though they may move some of it about.

The foregoing, I think, will explain the why of the described combs causing trouble. Mr. Doolittle has his combs cleaned out thoroughly in the spring, others have it done in the fall. The results are the same.

Each bee-keeper must decide for himself, or herself, whether he or she will use the wholesale fall way, or the retail spring way; but either way, *don't* give the sections with the honey in them. Have them dry.

Providence Co., R. I.



The Value of Breeding or Other Stock.

BY H. L. JEFFREY.

I HAVE read and reread the article by Henry Alley, on page 24, headed, "Can Good Queens be Reared by a Cupful of Bees?" There are two or three points in that article that interest me very much, and they are always left as they seem to be by Mr. Alley, without any backing up by facts or by comparison with the raw material proof from pure and unadulterated laws of Nature. The first one is the answers in Crude Nature to the heading question. That one I will pass now, and take up the point where he says, "How this statement will make Editor Hill of the American Bee-Keeper jump." There are thousands of people that not only jump, but they actually curse everything and everybody, whoever it may be, that places more than the butchers' price on anything, and the only reason for such discarding deduction of the valuation of perpetuating power always comes from the one idea of being cursed with the inability to produce superiority in anything. And the most galling thing to that class is, that in spite of their attempt to obliterate such superiorities, that very uncontrollable "Old Dame Nature," so tantalizingly just keeps poking one of her peculiar freaks just up into their sight, and just so far out of their reach that all they can do is to shake their fist and screech, "I wish the Devil had you!" But they forget to pay for a through ticket to his majesty, so it cannot be used.

But breeding-stock has a compounded compounding valuation. I will tell you why. A dairy-man I have known

for 40 years, has, within the past 30 years or less, actually increased the butter quality of his own cows more than double what it was years ago. About 30 years ago he noticed that the offspring from a certain cow, and the blood of a certain bull, always gave evidence of superior quality, and, very quietly, and unobserved, he went to work to intensify that power in the reproductive force and line. Close inbreeding was resorted to, to a considerable extent, and once that ball of imparting force became starting on its way, and its velocity increased its own force, that dairy more than doubled its butter yield from the same number of cows, and therefore decreased the actual cost of production, which in the actual sense not only gave double the profit, but was 4 to 1. Doubling the yield per cow, actually reduced the expense more than one-half; double the yield, made one less cow to keep for the same result. One less cow to keep for the same results made room to keep one more cow to produce double the result, which is actually twice 2 are 4, or an actual $\frac{3}{4}$ profit against even cost and income; besides that, his intensifying the reproductive powers gave a like percentage value to all his neighbors that raised calves from their cows by his bull; and in dollars and cents added to the value of that man's breeding bull in ratio that his offspring became numerous.

This is not a fanciful sketch, but a solid, hard-pan, solid-rock, and past approvable fact, and one of those laws of the Old Dame, that cannot be drowned out of sight.

But some will say, "A breeding bull and a queen are not a particle alike." Well, just keep thinking so, and saying so, but suppose they both could speak and say, "You lie." Eh? They act it out; actions speak louder than words, or my eyes are without sight. But it is just the same with bees, only a less time required to produce the same results.

Only 12 years ago I saw 150 colonies of bees containing the daughters of one queen that produced more than double the quantity of honey that was produced by 200 colonies containing the hap-hazard, come-as-you-please queens. There was the close selection for quality followed up for seven generations to produce the superior qualities. The 150 queens were all reared in one season, the same persons owning the 200 other colonies owned the 150 queens, and their mother was worth just as much more than any other common queen as her progeny produced more pounds of honey than the common stock. Furthermore, if from that queen 10,000 queens had been reared, and each of their colonies produced only \$1.00 more in honey than the common, average queen, that identical queen is actually worth the small sum of \$10,000 to the bee-keepers at large; and then selecting from her daughters a very few breeders of like productive powers, that \$10,000 is again compounded. And deny it if you can; but remember that "Whosoever speaketh the same, speaketh a lie, and the truth is not in him." Figures prove 1 from 2 but one remains; Nature proves 1 from 2, and 3 remain; or 8 from 2, and you have 10.

Litchfield Co., Conn.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Mr. Doolittle and the Sisters.

The kind words from Mr. Doolittle about the "Sisters Department" are thoroughly appreciated. Many thanks for the same.

Unfinished Sections Used as Baits.

Mr. Doolittle asks the question, "Why would Miss Wilson consider bait-sections spoiled because honey had candied in them?"

I consider them spoiled because it is difficult, if not impossible, to get the granules entirely cleaned out, and because such granules present act as a center to start further granulation.

Mr. Doolittle asks: "Can't the bees clean sections or the cells of the honey-comb as clean in the spring as in the fall?"

Probably they can, if the honey is in the same condi-

tion one time as another; but it is more likely to be candied in the spring, and then the job of spring-cleaning is very different from fall-cleaning.

He asks: "Can't they clean them *clean* and free from honey, whether candied or otherwise, in the spring, summer, or fall?"

Yes, I think they can. But it doesn't matter whether they can or not, if they won't. As a matter of fact, our bees *don't* clean out candied honey the same as they do liquid honey, and this is not "a belief in an old assertion, taking it for granted it was true," but a fact that I have seen demonstrated many and many a time. Any one can probably see the same thing demonstrated in almost any case in which a colony has been robbed out in the spring. The liquid honey will be taken, but the candied honey will be left, every time. The granules seem to be to the bees no more than so many grains of sand, and they are only removed, apparently, just so far as it may be necessary to remove them in order to get at the liquid honey.

Even if the bees should clean out the candied honey as well as the liquid, there would be an objection to the waste, for the bees throw away all the granules they carry out of the cells.

Mr. Doolittle tells about using sections for stimulative feeding, and says:

"Opening hives a week after they have been so treated, I have found them with more than doubled brood, and thought I was doing a nice thing in this way. But Miss Wilson says not."

I hardly think Miss Wilson ever said anything about it. She thinks he would be doing not only a nice thing, but a *very* nice thing to have "more than doubled brood" in a week's time. But she would prefer that the feed should be given some other way than in sections of candied honey, and Mr. Doolittle will probably agree that for stimulation it would be better to have thinner feed, and that at least part sugar would be cheaper.

Mr. Doolittle asks if I have tried fall-cleaned and spring-cleaned sections side by side. No, I never made any exact comparison. I would do so this year if I could find any sections containing any candied honey. But our honey has kept too well for that. Nearly a hundred sections are on top of the kitchen safe, most of them having some unsealed cells, but I can not find a single cell that shows the least sign of granulation.

But I think several have reported in the past years (I can not name them now), that their sections have been spoiled when spring-cleaned ones were used. If Mr. Doolittle succeeds, others may not be so fortunate.

It is probably not necessary to say that the least granule left in a cell will serve as a starting-point for further granulation; all scientists are agreed upon that; the only question is whether the bees will clean out the granules. The fact that I have seen so many cases in which the liquid was *all* emptied out of the cells and the granules left is pretty good proof; but if any of the sisters, or indeed of the brothers, have any sections of candied honey, by all means let us have them tried. If Mr. Doolittle is right we ought to know it.

Rightly managed, there is no need of having our beautiful sections torn. We have had thousands of them so cleaned without being torn in the least. Wrongly managed, they will be torn either spring or fall.

Lotion for Whitening the Skin.

The following is given in the "Health and Beauty Department" of the Chicago Daily News, as a good and harmless lotion for whitening the skin:

"Pure honey (extracted) four ounces; glycerine, one ounce; rose water, one ounce; citric acid, three drams; essence of ambergris or essence of rose, six drops.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of \$1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

The **Premiums** offered this week are well worth working for. Look at them.

* The Afterthought. *

The "Old Reliable" seen through New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

CHAFF HIVES IN DIFFERENT LOCALITIES.

So in Wisconsin they don't take to chaff hives at all. In New York's best bee country they don't want anything else. Down in Missouri, Manufacturer Leahy gave his away, because he wanted his hives all so as to carry into the cellar easily. What shall we say, therefore? I'll say, If you have chaff hives don't give them away. I have some, and you are not going to get them free gratis. Page 213.

THE MICKLESS HONEY-ROOM.

Happy Greiner! He has a shop and honey-room in which there are never any mice. I suppose hundreds of the brethren intended so; but, alas, the chasm between intention and realization! It's all just so as it ought to be—to put sections in the intended-to-be-mouse-proof box inside the intended-to-be-mouse-proof room. Honey-keeping by Double Entry better than honey-keeping by Single Entry. Page 214.

THE "POOR SEASON" AND "POOR PIE."

Apparently the "poor season" of some bee-keepers is like the "piece of very poor pie" which your hostess blandly invites you to take. Page 214.

ALFALFA-GROWING IN THE EAST.

I stand convicted, Mr. Johnson. I climb down. I had no right to speak of the tubercles of alfalfa as having "bugs" in them—and so throw the learners in natural science off the track. I guess my impression at the time was that the tubercle-dwelling germs *were* animal; and so my short-coming stands as a case of ignorance, and not as a frolicsome sort of perverse teaching.

Thanks to Prof. Hopkins for the information that clover bacteria will not serve the turn for alfalfa. And how well the pictures on page 212 tell the story—story of something lacking in the one case and of things all right in the other! It is quite reasonable for us to expect that alfalfa naturalized, and fully supplied with its own tubercle-dwelling bacteria, and flourishing like a green-bay tree, would yield honey here as well as elsewhere. Lack of nectar-flow seems to be a plant's usual method of protest—protest that although it can live and grow it is dissatisfied with some of the conditions. Present appearance seems to be that alfalfa is a coming crop; and with it we see a new light. Page 215.

JERSEY MOSQUITO AND BEE-STINGS.

O the Mosquito, the Jersey Mosquito!
In size, vim and venom she can not be beat, O!
She martyrs the natives, spring, summer and fall,
Until a mere bee-sting seems nothing at all.

A HUMMING FAMILY "OUTFIT."

Husband and I and Alice and Kate, eh? Who couldn't make the honey-business hum with such an outfit as that? Page 216.

SPRING-WATER IN BEE CELLARS.

No, Mr. Callbreath, it isn't the warmth of the spring-water that makes a cellar with a running spring in it one of the best of all places to winter bees. Running water oxygenizes and ozoneizes the atmosphere, and also dissolves the carbonic acid gas and carries it away. Ventilation of very best sort without any cooling, and *without any possibility of excess*.

THE NAME-ON-THE-SECTION CONTROVERSY.

Tell Alma Olson I am on his side (languidly) in the name-on-the-section controversy—and, lo, I come to give him an unbrotherly stab. He put his foot in it badly when he referred to the seedsman's name on the package of seeds. Many, if not most of the seed-packages, hold seeds raised by some specialist farmer and sold to the seedsman who takes the responsibility of them before the world. If I am right, the great seedsmen raise a great many seeds, but still buy more than they raise. I think the farmer would not be allowed to have his address on the seeds—pretty surely would not ask for such a thing. Page 220.

BEEES STINGING AT A MARK.

C. Stimson will probably get the assent of many when he says bees generally sting at a mark mouth, nose, eye or

ear. Is that really so, or do our imaginations get in their work there? I have sometimes thankfully wondered why a cantankerous bee kept away from my eyes so well. In regard to the ear perhaps I had better own up. (But then, consider the size of the territory in some of our cases!) As a hostile bee spends much of the time just behind one's head, the ear is the first exposed territory met with, on screwing up courage to the sticking point and coming to the front. Page 222.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

(The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.)

Questions on Queen-Rearing.

1. I am frank to confess that I am as green as grass on queen-rearing, and want to know more, and I do not understand some of the expressions used in the American Bee Journal, and also "A B C of Bee Culture." I take the American Bee Journal and Gleanings in Bee Culture, have also "A B C of Bee Culture," still I am thick-headed. In "A B C in Bee Culture," under queen-rearing, page 258, is a cut of a Doolittle cell-cup, and from the cut it looks as if the cells are put on the bottom of a stick to be put in a brood-frame, and cells appear to hang straight down. If so, what prevents eggs or larvae from falling out when grafted?

2. What is meant under the same head, pages 260 and 261 of "A B C of Bee Culture," when it says, "When properly done the strips of comb will have cells slanting toward the bottom-board?" In other words, I want to know whether these artificial cell-cups and these strips of worker-comb cells point or hang perpendicular, or stand straight out like worker-comb as built by the bees in brood-frames, or point down at about an angle of 45 degrees. I know after bees take possession of the prepared queen-cells they build them out and down. But what is their position when man leaves them? From the cut, page 258, it looks as if man leaves them hanging straight down.

3. On pages 260 and 261, "A B C of Bee Culture," it says, "shave one side of strips of comb." What becomes of the other side, and how treated, by man and bees? If as per instructions under queen-rearing, I put 2 frames of brood in the upper story, is there any danger of bees leaving it uncared for, and the brood and cell-cup dying from neglect?

5. Should cell-cups be put in the upper story when the frames of brood are put in, or wait a day or so to see if the bees are attending to and keeping the brood warm?

6. Will this queen-rearing in upper story in any way hinder storing? and should full sheets of foundation be furnished on either side of the brood for storing?

7. How soon after putting in these artificial queen-cells before I can tell whether the bees are working on them?

3. The Alley plan, as described on pages 260 and 261, would be less trouble, I think, to me. Do you think it as good, for one who knows nothing about queen-rearing, as the Doolittle cell-cup plan?

KENTUCKY.

ANSWERS.—1. Your supposition is correct; the cells are mouth down, just as the bees always build cells when preparing to swarm. Dip your finger in water, and a drop of water will be found hanging on the tip after your finger is taken out of the water—held there by cohesive attraction, the same that holds the contents of the cell in place.

2. In an edition of "A B C of Bee Culture" before me, I find, not "slanting toward bottom-board," but "pointing toward the bottom-

bar." The cells point straight down, first and last. The only time when you will find queen-cells any other way is when the bees build emergency-cells from worker-brood, or in a very few rare cases in which the place is too cramped for the cells to be built straight down.

3. The side shaved down is the one on which the cells are started; the other side, not cut, is dipped into melted wax and then glued on the bar.

4. If one or more frames of brood are put in an upper story over a strong colony, there is no danger that the brood will be uncared for, but there is always some danger, anywhere and everywhere, that not all of the queen-cells will be properly cared for.

5. It will be generally safe to give the cells at the same time as the brood, although there may be an occasional case in which the bees are a little slow about occupying the brood.

6. It will not hinder storing, and foundation or drawn combs may fill out the story the same as if no queen-rearing were going on.

7. Generally within 24 hours.

8. An utter novice would probably find it easier to manage the Alley plan, and either plan produces good results.

Prevention of Swarming—Uniting Colonies.

1. Please give a description of L. Stachelhausen's invention to prevent swarming.

2. In M. R. Kuehne's plan to prevent swarming, after the queen is laying, does he take out the entire board or just the wire-cloth and let them unite? WEST VIRGINIA.

ANSWERS.—1. Mr. Stachelhausen prevents swarming by the shaken-swarm plan. You will find that fully given in back numbers, with Mr. Stachelhausen's comments also on page 245.

2. Take out the entire board, I suppose.

Colonies on Crooked or Bulged Combs.

1. I have about 20 colonies of bees, purchased, last fall; they are in 10-frame Simplicity hives, and about 6 combs in each brood-chamber are bulged or crooked. I have sent for Hoffman self-spacing frames, and sufficient brood foundation for these hives, foundation to be wired in, in full sheets. I wish to run part of these hives for extracted and part for comb honey. How can I best change the old, bulged brood-frames to new brood-frames of foundation.

2. How would it do at about the beginning of the honey harvest to put a second story or brood-chamber (for extracted honey) with the frames of foundation, and a queen-excluder between; then every 3 or 4 days exchange a frame or two of brood for a new frame or two of foundation from the second story? Then when the brood has hatched out they will fill these combs with honey. Will this honey be damaged any by being stored in these old combs? and will these old combs make good beeswax?

3. What way would be better for extracted or comb honey in sections? Or would I better not try to produce honey in sections from any of these colonies this year? OHIO.

ANSWERS.—1. If I understand you correctly, there are about four straight combs in each hive. Lift out these four combs and put them in another hive-body, looking to see whether you get the queen. If you get the queen, leave her with the four combs, and fill up each hive with the new frames filled with foundation. Take the old hive off the stand and put the new hive in its place. Put an excluder over this, and set the old hive over the excluder. Twenty-one days later there will be no brood in the upper story unless it be some drone-brood. Then you can extract the crooked combs, melt them up, or do what you please with them. If you do not find the queen on the four combs, and if the other combs are so fastened together that you cannot lift them out, then after you have put the four frames in the new hive, set the old hive on top of it with no excluder between, and drum the bees up, so as to get the queen above. Then put the new hive, as before directed, on the stand with the old hive on top and an excluder between. The queen must be in the lower hive.

2. The honey and the wax will be all right, but you will make a quicker job of it as already directed.

3. Necessarily you will have the old hive-body filled with extracted honey, but after that is pretty well filled you may let the bees do the rest of their storing in sections by adding supers of sections under the upper story.

ONLY A FEW DAYS

It takes only a few days to get our 125-page catalog of the celebrated **SPLIT HICKORY VEHICLES** and Harness which we sell direct at factory prices. You should send for it by all means before buying. It is full of buggy and harness surprises. This

SPLIT HICKORY \$40

WINNER

On 30 Days' Free

Trial. Write at once.

Ohio Carriage Mfg. Co.

Station 6 Cincinnati, O.



Please mention Bee Journal when writing advertisers.

FROM MANY FIELDS

Wintering Bees.

The past winter was very favorable for bees. Colonies that had plenty of stores came through in almost perfect condition. We have lost 7 colonies, due to lack of stores and queenlessness.

In preparing for winter we used different plans: Packing above frames, sealed covers without packing, and sealed covers with super on. The conditions being the same, the result seemed to be in favor of the first two plans, and I believe I would use packing had

Good Bye

old whitewash brush with your hard work and waste of time.

The Hardie Whitewashing Machine

not only works much faster but forces the liquid into every crack and destroys insect life which a brush would pass over.

Send \$7.50 for the complete machine, express prepaid, if you are not satisfied we return the money. Full particulars if you need them. Address Dept. H

HARDIE SPRAY PUMP

MFC. CO.

DETROIT, MICH.

WINDSOR, ONT.

I the means to keep the outside moisture from getting on the packing.

Prospects are favorable for the present season. Bees are doing a fine business from apple-bloom, and should the present good weather keep up they will get considerable honey.

I am thinking of building a shed for the bees so as to keep them from getting wet. I would have it open in front and arranged at the back part so that a person could get at the hives. Should any of the readers have any experience with a shed of this kind, I would be glad to hear their opinion of it.

E. N. EVERSON.

Jefferson Co., Ohio, April 22.

A Dry and Cool Spring.

The bees wintered well last winter, and clover came through also in fair condition, so that the prospects for honey were good here. But we have had a dry, cool spring and now we have just had a light rain followed by snow and a temperature of 24 degrees above zero. Plum and cherry bloom is about half out, and apple-buds about to open, so that the prospects for fruit-bloom are very slim.

A good season for fruit-bloom was needed on account of lack of good working-days for such other bloom as we have had heretofore.

So, while the loss of the fruit-bloom may not prevent a honey crop later on, it will very probably necessitate feeding.

I am thinking of making some troughs and feeding outside, as there are no other bees in the range.

Fortunately, the bees were almost all quite strong, so that they will probably be able to protect their brood.

E. S. MILES.

Crawford Co., Iowa., April 30.

All Colonies Wintered Well.

Bees are doing nicely on dandelion, willow and cherries. All colonies came through the winter in fine condition. I winter them in the open air, having packed them with an extra covering. Fruit-bloom was killed by sleet and ice. The temperature went down to 16 below freezing.

GUSTAVUS KOLLS.

Hall Co., Nebr., May 2.

Swarming Management.

On page 264, Wm. McEvoy gives his method of preventing swarms getting mixed up. I can see the advantage of his method, but many of the small bee-keepers, like myself, find it difficult to follow. Many of those that keep bees in this vicinity are farmers, like myself, and keep only a few colonies of bees from a very few up to 40 or 50, just for the pleasure of keeping them and having a little honey to keep us sweet. According to the definition given in the Bee Journal, we are not apiarists, only bee-keepers, and other work prevents us from giving that time and attention to our bees that is required of an apiarist. We do not have any help, but each one handles his bees alone, and it often happens that two or more swarms come out at the same time while the farmer is in the field at work, and before he can get to his bees they have all clustered together, and, the only thing to do is to hive them in one hive. I know of two instances of this kind that happened in this vicinity, and so many swarms clustered together that they could not be hived in a common hive, but were hived in a dry-goods box, and they stored several hundred pounds of honey.

Last year I had a swarm come out, and, after being in the air for a time, they returned to the hive without clustering, and while they were returning I looked in front of the hive and saw a small bunch of bees; on examination, I found the queen, picked her up with my fingers and put her on the alighting-board. The next day they came out again, and at the same time another swarm from the hive came out and were all mixed up, but clustered in two clusters about ten feet apart, and before I could hive them they all went together. They were both prime swarms and filled the hive full, and I got more honey from them than any three swarms last season.

A few days after this I had an after-swarm come out, and while I was hiving them an-



.....FOR THE BEST.....
HIVES, SMOKERS, EXTRACTORS, FOUNDATION
AND ALL.....
BEE-KEEPERS' SUPPLIES.
LEAHY MFG. CO.
 Address, Higginsville, Mo. 1730 S. 13th Street, Omaha, Neb. 2415 Ernest Ave., Alta Sita, East St. Louis, Ill.
 Please mention Bee Journal when writing

BINGHAM'S PATENT
 25 years the best.
 Send for Circular. **Smokers**
 T. F. BINGHAM, Farwell, Mich.

BOYS WE WANT WORKERS
 Boys, Girls, old and young alike, make money working for us. We furnish capital to start you in business. Send us 10c stamps or silver for full instructions and a line of samples to work with. **DRAPER PUBLISHING CO., Chicago, Ill.**

California Excursion.

Tickets on Sale Aug. 1st to 14th.

CHICAGO TO LOS ANGELES OR FRISCO.

Only \$50, round trip.

"Santa Fe all the Way"

Account National Bee-Keepers' Association meeting in Los Angeles, Aug. 18 to 20.

Permitting stop-overs going and returning, in and west of Colorado, and allowing choice of any direct route for return.

Visit the Grand Canyon of Arizona.

J. M. McCONNELL,
 Gen. Agt.

SANTA FE

109 ADAMS ST.
 CHICAGO.

Marshfield Manufacturing Company.

Our specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Company, Marshfield, Wis.

6A26t

Please mention Bee Journal when writing.

**30 cents Cash
 paid for Beeswax.**

low, upon its receipt, or 32 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 144 & 146 Erie St., Chicago, Ill.



This is a good time to send in your Beeswax. We are paying 30 cents a pound—CASH—for best yellow.

Thousands of Hives - Millions of Sections

Ready for Prompt Shipment.

We are not selling goods on NAME ONLY, but on their quality. In addition to the many car-loads we are shipping to all parts of the United States, we have just made one shipment of five car-loads to England.

G. B. LEWIS CO., Watertown, Wisconsin, U. S. A.

Dittmer's Foundation!

Retail and Wholesale.

This foundation is made by a process that produces the superior of any. It is the cleanest and purest. It has the brightest color and sweetest odor. It is the most transparent, because it has the thinnest base. It is tough and clear as crystal, and gives more sheets to the pound than any other make.

Working wax into Foundation for Cash a Specialty. Beeswax always wanted at highest price.

Catalog giving FULL LINE OF SUPPLIES with prices and samples, FREE on application.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing

\$19.00 to Boston and Return \$19.00

with membership fee of \$2.00 added, account of annual meeting of National Educational Association. Tickets will be on sale via the Nickel Plate Road July 2d to 5th, inclusive, good returning from July 8th to 12th inclusive, without being deposited with Joint Agent. Additional limit to return not later than Sept. 1st can be obtained by depositing return portion of ticket with Joint Agent and payment of 50c. for execution. Superior train service and excellent dining-car meals, on American Club Plan, ranging in price from 35c. to \$1.00; also a la carte service. Write John Y. Calahan, General Agent, 113 Adams St., Room 298, Chicago, for time of departure of trains from Chicago, and other detailed information.

3-17A5t

Please Mention Bee Journal when writing advertisers.

\$5 TO START YOU IN BUSINESS

We will present you with the first \$5 you take in to start you in a good paying business. Send 10 cents for full line of samples and directions how to begin.

DRAPER PUBLISHING CO., Chicago, Ill.

Please mention Bee Journal when writing

Italian Queens, Bees and Nuclei.



We have a strain of bees bred specially for honey-gathering and longevity, at the following prices:

One Untested Queen.....	\$1.00
One Tested Queen.....	1.35
One Select Tested Queen.....	1.50
One Breeder Queen.....	2.50
One - Comb Nucleus (no Queen.....	1.40

Tested ready now; untested in May. Safe arrival guaranteed. For price on Doz. lots send for catalog.

J. L. STRONG, 1641 204 E. Logan St., CLARINDA, IOWA.

Please mention Bee Journal when writing

We are the Largest Manufacturers of Bee-Keepers' Supplies in the Northwest

Send for catalog.



Minneapolis, Minn.

We have the Best Goods, Lowest Prices, and Best Shipping Facilities

Please mention Bee Journal when writing.

Headquarters FOR Bee-Supplies

Root's Goods at Root's Factory Prices.

Complete stock for 1903 now on hand. Freight rates from Cincinnati are the lowest. Prompt service is what I practice. Satisfaction guaranteed. Langstroth Portico Hives and Standard Honey-Jars at lowest prices.

You will save money buying from me. Catalog mailed free. Send for same. Book orders for Golden Italians, Red Clover and Carniolan Queens; for prices refer to my catalog.

C. H. W. WEBER,

Office and Salesrooms—2146-48 Central Ave.
Warehouses—Freeman and Central Aves.

CINCINNATI, OHIO.

Please mention Bee Journal when writing

other after-swarm issued, and came to the hive where I was at work, and they went in without clustering. I considered this an advantage for it made a good, strong colony that has wintered well, and is one of my best.

Last year was a poor one for honey. I got only about 300 pounds of comb honey from 16 colonies, spring count. I lost a number of colonies from spring dwindling and being robbed. My bees have wintered very well. I lost two colonies in the cellar. I put the bees out the first day of April. A few days after being taken from the cellar two colonies went into other hives near by. I suppose they were queenless. I now have 18 colonies, strong and healthy, and working well when the weather admits. It has not been very cold since they were taken from the cellar, but there has been too much rain for the good of the bees. To-day (April 30th) is the coldest we have had. The ground is covered with snow and the temperature this morning was 24. Bees are in better condition and working better than they did last spring.

I approve of nearly all the modern methods of handling bees, yet I am plodding along in the same old rut. I have for years been letting my bees swarm naturally. I do not clip the wings of queens, yet I have lost only three queens by absconding during the last ten years. I would rather not have any after-swarms, yet I do not cut out queen-cells, and if after-swarms come out I put two together, if possible, and so far I have been quite successful in doing it.

If our large apiarists read this article they will smile at my methods, and say they are old and out-of-date. This is true, and so am I old and out-of-date. I am 79 years old to-day. The modern methods and improvements are all right, but, at my advanced age, I find it difficult to keep up and adopt all of them. I am an old soldier, and can't keep up with the army, but when night comes I will try and be in camp, and "When the Roll is Called Up Yonder," I'll be there.

S. B. SMITH.

Millelacs Co., Minn., May 4.

Bad Weather for Bees.

It has been very bad bee-weather for the last two weeks, in this locality. It freezes nearly every night, and this morning a snow-storm visited us, covering the ground with nearly two inches of snow. We are having a great deal of rain, which I hope will make a good honey season. I wintered but 2 colonies out of 4, the 2 that died being moldy. But each had nearly 30 lbs. of honey left. I sold some of it at 15 cents per pound, and used the rest to feed the other colonies, which are in good condition at present.

I watch for the American Bee Journal every Thursday; it is a welcome visitor here.

B. F. SCHMIDT.

Clayton Co., Iowa, May 1.

Look for a Good Year.

Our bees came out of the winter in good shape, with no loss to speak of. We winter them here on the summer stands. We have had an immense fruit-bloom, but the weather has been so cold that the bees could not work more than half the time, but they have filled up their brood-chambers and are in excellent shape for white clover, which is abundant everywhere. We look for a good year. I found the first white clover blossom to-day, which is nearly one month early. Success to the American Bee Journal.

C. ZOLL.

Fulton Co., Ill., May 2.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only \$1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,

144 & 146 Erie Street,

CHICAGO ILL.



Testing Honey-Barrels.

"To test honey-barrels before waxing, a bicycle pump is recommended in Gleanings in Bee-Culture, instead of blowing into the barrel with the breath.—American Bee Journal.

Blowing the breath into a barrel or can to test it for leaks, is very unreliable. A decided better way is to place the lips firmly in or against the aperture, draw into the lungs and exhale through the nose all the air possible, by repeated draughts, which necessarily become shorter as the air is pumped out of a tight receptacle. By this means much more power, with less effort, is exerted; and in case of a leak, in testing cans, the rushing air from outside, while the breath is momentarily held to listen, will re-inflate the partly collapsed tin, thereby keeping up a constant cackle and ring as the sides readjust themselves to the original position. In testing barrels, when a leak occurs, and while the bung is yet stopped by the human pump, the hissing of rushing air may be audible, or, if the leak be very small, the suction at the bung will be gradually reduced, and readily recognized by the pumper.—Editorial in the American Bee-Keeper.

Time for Cutting Alfalfa.

I have just read Bulletin No. 114, issued from the experiment station at Manhattan, and it says, "Alfalfa should be cut when not more than one-tenth of the plants are in bloom. Early cutting invigorates the plant. The late cutting of the first crop seems to injure the plant more than at any other time." In September, 1901, I planted six acres to alfalfa, and got a splendid stand. In the last week of May, 1902, I concluded that one-tenth of the plants were in bloom, and the crop was ready for cutting, and I cut ten swaths around the field. It set in so rainy and cloudy that I stopped the mower and waited two weeks for fairer weather, lamenting all the time that I was injuring the hay crop by letting it stand so long without cutting. But I was surprised, when I came to cut the second crop, to find that the piece that I cut earlier did not turn off more than about one-half as much as the piece I cut later; and this was the case with the third and fourth cuttings. All through the season I could distinguish the very line where the earlier cutting left off and the later cutting commenced. The ground and soil are all the same, rich bottom, about 30 feet above permanent water, no weeds, foxtail, or crab grass in the field. The hay from the earlier cutting did not remain on the field to injure growth of second crop. Please explain to me why my alfalfa acts so contrary.—J. M. CRAIG, of Anderson Co., Kans., in Gleanings in Bee-Culture.

Hiving Swarms on Shallow Frames.

When only a single story is used it is likely to result in the bees swarming out again. The editor of the Bee-Keepers' Review manages as follows:

When I began using the Heddon hive, putting a swarm into a single section, and putting on the sections, there was so much swarming-out that I came very nearly being discouraged. Finally, I began using both sections of the hive for a brood-nest for the first three days. On the fourth day I set the upper section, and the supers, to one side (crosswise of an empty hive), then set the lower section off the bottom-board, returned the upper section and supers to the old stand, and shook down in front of them the few bees that were clustering in the lower section. I used starters only in the frames, and, at the time of removing the section, the combs in the upper section were usually one-third or one-half completed. Some of the combs in the lower section were just nicely started, and

QUEENS!

Golden and Leather-Colored Italian, warranted to give satisfaction—those are the kind reared by **QUIRIN-THE-QUEEN-BREEDER**. Our business was established in 1888. Our stock originated from the best and highest-priced long-tongued red clover breeders in the U. S. We rear as many, and perhaps more, queens than any other breeder in the North. Price of queens before July 1st: Large select, \$1; six for \$5; Tested Stock, \$1.50; six for \$8; Selected Tested, \$1 each; Breeders, \$4. Two-frame Nuclei (no queen) \$2.50 each.

Special low price on queens in lots of 25 to 100. All queens are mailed promptly, as we keep 300 to 500 on hand ready to mail.

We guarantee safe delivery to any State, Continental Island, or European Country. Our Circular will interest you; it's free.

Address all orders to
Quirin-the-Queen-Breeder
PARKERTOWN, OHIO.

(The above ad. will appear twice per month only.) 16E13t
Please mention Bee Journal when writing

40-page Catalog Free. Full information regarding Bee-Supplies of all kinds. Best in the market. Latest improvements. Dautenbaker hives kept in stock.
10E1t **JNO NEBEL & SON, High Hill, Mo.**
Please mention Bee Journal when writing

FENCE! STRONGEST MADE. Bull Strong, Chicken Tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COILED SPRING FENCE CO.
Box 89 Winchester, Indiana, U. S. A.
40E1t Please mention the Bee Journal

Catnip Seed Free!

We have some of the seed of that famous honey-producing plant—Catnip. It should be scattered in all waste-places for the bees. Price, postpaid, 15 cents per ounce; or 2 ounces mailed **FREE** to a regular subscriber for sending us one **NEW** subscriber to the Bee Journal for one year, with \$1.00; or for \$1.20 we will send the Bee Journal one year and 2 ounces of Catnip seed to any one.

GEORGE W. YORK & CO.
144 & 146 E. Erie St., CHICAGO, ILL.

Business Queens.

Bred from best Italian honey-gathering stock, and reared in **FULL COLONIES** by best known methods. Guaranteed to be good Queens and free from disease. Untested, 75c each; 6 \$4.00. Tested, \$1.25 each. Untested ready July 1st. Tested about July 15th. Address,

CHAS. B. ALLEN,
18A1t Central Square, Oswego Co., N. Y.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (yellow)....	\$.90	\$1.70	\$4.00	\$7.50
Alsike Clover	1.00	1.80	4.25	8.00
White Clover	1.50	2.80	6.50	12.50
Alfalfa Clover	1.00	1.80	4.25	8.00

Prices subject to market changes.

Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street. CHICAGO, ILL.

The Nickel Plate Road is the short line to the East and the service equal to the best. You will save time and money by traveling over this line. It has three through daily express trains, with through vestibuled sleeping-cars, and American Club Meals, ranging in price from 35c. to \$1.00, are served in Nickel Plate dining-cars; also a la carte service. Try a trip over the Nickel Plate Road, and you will find the service equal to any between Chicago and the East.

Chicago depot: Harrison St. and Fifth Ave. City Ticket Offices 111 Adams St. and Auditorium Annex. John Y. Calahan, General Agent, 113 Adams St., Room 298, Chicago. 'Phone Central 2057. 1—17A5t

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,
The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, \$2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, SAN FRANCISCO, CAL.

WE INVITE all readers of the **AMERICAN BEE JOURNAL** who seek a college for themselves or friends to investigate

Mount Union College

Our motto in all departments is "Maximum efficiency at minimum cost."

Our scholastic training is equal to the best, our reputation first-class. All expenses for a year, aside from the clothing and traveling, less than \$200.00. Co-education, health conditions, moral and religious influence, superior.

Send for catalog.

MOUNT UNION COLLEGE,
Alliance, Ohio.

Complete Line of Lewis' Matchless Dovetail Hives and Supplies at Factory Prices.

HIGH-CLASS QUEENS.—Buckeye Strain Red Clover Queens, they roll in the honey while the ordinary starve.

Muth Strain Golden Italians, None Superior. **Carniolans,** None Better.

We guarantee safe arrival by return mail.

APRIL, MAY, JUNE.

Untested	\$1.00 each; 6 for \$ 5.00	Best money can buy	\$5.00 each.
Select Untested	1.25 each; 6 for 6.00	2-frame Nuclei with Select Untested	
Tested	2.00 each; 6 for 10.00	Queen	\$2.75
Select Tested	3.00 each; 6 for 15.00		

Send for Catalog and see **SPECIAL INDUCEMENTS.**

THE FRED W. MUTH CO. Front & Walnut Sts., CINCINNATI, OHIO.

Please mention Bee Journal when writing

I used this lower section as the upper section to the next hive in which I put a swarm.

This management did away entirely with the swarming out after hiving. It gave the bees plenty of room until they had cooled off and settled down to work, when it mattered little how much they were squeezed, there was no swarming.

Differences of Opinion About Time for Cutting Alfalfa.

Experiment stations should be able to decide such questions right, so farmers could tell exactly what is best; that is what the stations exist for. Experimenters can bring chemistry to bear on the subject, and then prove or disprove the practical application of the conclusions thus obtained by feeding stock and carefully noting results. Then, why don't they agree? Different environments naturally bring different results. It would seem strange if the most successful mode of handling alfalfa on rich, sandy loam would necessarily be best on a thin limestone soil where the growing season is more than a third shorter. The best hay for horses may not be best for beef stock or milk production. If any one has advocated very early cutting of hay in this valley, when the hay is intended for horse feed, it has never reached my attention. Many claim that alfalfa should be in full bloom for some time to make best feed for beef cattle, and many claim it should not stand so long. But when it comes to dairy stock, I do not know a man who has changed from late cutting to early, and then changed back to late cutting. As dairying is rapidly coming to the front, it is revolutionizing the alfalfa business. As farming is usually done on methods which are supposed to give the best average results, the alfalfa is all cut young where dairying is the main thing (and it generally is), and little thought is given to the small loss, if any, that is brought about by feeding the "wishy-washy" feed to other stock.—W. A. H. GILSTRAP, in *Gleanings in Bee-Culture*.

The Percent of Water in Honey.

At the annual meeting of the Ontario Association, Prof. Frank T. Shutt, Chemist of the Experimental Farms, Ottawa, gave an exceedingly interesting address relating to the proportion of water in honey. The address occupies a number of pages in the Canadian Bee Journal, and a few of the points are here given:

I said we had no Canadian data on the subject, and as far as I was aware the European authorities differed widely, for I found some authorities stated 10 and 15 percent of water, whereas I found other chemists gave as much as 25 and 30 percent of water; and then, on the other hand, there were those who endeavored to bring together the two, and said the proportion of water in honey might vary very largely, and that we should not be surprised at finding a variation of as much as 10 and 15 percent.

A large amount of work was done in the attempt to settle the question, with regard to which Prof. Shutt said:

However, I must make this statement at the outset, so that there may be no misunderstanding: It is very greatly to my disappointment that I am not able to tell you today what is the normal percentage of water in genuine honey, either ripe or unripe. We have done, as I have said, an exceedingly large amount of most careful, thorough chemical work since Oct. 1, but still I am not in a position to say really what the percentage of water is. Now, the reasons for that I will explain to you as I give these results. You will see it has not been a matter of negligence at all, but the question involved is one relating to the accuracy of the process now in vogue.

Referring to the great discrepancy in the results obtained by chemists in England and on the continent, he said:

One authority, J. C. Brown, gives dextrose as 31.77 to 42.02 percent; and levulose 33.56

Tennessee Queens.



Daughters of Select Imported Italian, Select long-tongued (Moore's), and Select, Straight 5-band Queens. Bred 3/4 miles apart, and mated to select drones. No bees owned within 3, and but few within 5 miles. No disease. 30 years' experience. **WARRANTED QUEENS**, 75 cents each; **TESTED**, \$1.50 each. Discount on large orders. Contracts with dealers a specialty. Discount after July 1st

Send for circular.

JOHN M. DAVIS,

SPRING HILL, TENN.

Please mention Bee Journal when writing.

The Danz. Hive—

The Comb Honey Hive.

We sell it. We are authorized jobbing agents for **THE A. I. ROOT CO.**, for Michigan. Send us a list of the goods you want for this season, and let us quote you prices. Beeswax wanted. Send for catalog. **H. M. HUNT & SON,** 10A171 BELL BRANCH, MICH. Please mention Bee Journal when writing.

\$12.80 For 200 Eggs INCUBATOR

Perfect in construction and action. Hatches every fertile egg. Write for catalog today.

GEO. H. STAHL, Quincy, Ill.



46A26t Please mention the Bee Journal.

Italian Queens, by Mail.

Golden and Honey Queens ^{before July 1}

Untested.....	1.00	6.00	12.00
Tested.....	1.25	7.00	13.00
Breeder.....	4.00		
2-frame Nucleus (no queen) 2.00	11.00	21.00	

Add price of any Queens wanted with Nucleus. Our bees are shipped in light shipping-cases. Purchaser pays express on Nuclei. Safe arrival guaranteed of all stock sent out.

BATAVIA, ILL., Aug. 21, 1901.
Dear Sir:—I thought I would let you know as to results of the nucleus sent me. They were placed in 10-frame hives and now they are in fine condition. From one I removed 24 pounds of honey and had to give 6 of them more room, as they were hanging out. They have more than reached my expectations.

Yours respectfully, **E. K. MEREDITH.**

DAVENPORT, IOWA, Dec. 31, 1901.
Your queens are fully up to standard. The honey queen that you sent my brother takes the lead. She had a rousing colony when put up for winter. The golden can be handled without smoke or veil. Very truly yours,
JOHN THOEMING.

Notice.—No tested stock sent out before May 15. Send money by P. O. Money Order or Express Order. **D. J. BLOCHER,** 17A11 PEARL CITY, ILL.

Please mention Bee Journal when writing.



DAIRYMEN ARE DELIGHTED

to meet those who work for us. Cow keepers always have money. We start you in business. You make large profits. Easy work. We furnish capital. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ill.

BEE-SUPPLIES!

ROOT'S GOODS AT ROOT'S PRICES.

Everything used by bee-keepers. **POUDER'S HONEY-JARS.** Prompt service. Low Freight Rates. **NEW CATALOG FREE.**

WALTER S. POUDER. 512 MASS. AVE. INDIANAPOLIS, IND.

to 40.43 percent. Another authority gives dextrose 22.23 to 44.71; levulose 32.15 to 46.89; water 16.28 to 24.95, and so on. On looking over those results carefully the one thing that will strike you is this, that there appears to be great variability in the analysis in the composition of various honey. I say "appears to be," because I can scarcely believe that there is such a great variation, but, nevertheless, the results as they appear on record would give that indication, viz.: that there is great variability.

Now, all these analyses have been made by men of reputation, men endowed with skill and with honesty, but the difficulty has been in connection with the material itself and the process of analyses employed. And now I think I can tell you the reason for this apparent discrepancy. We understand that the two principal sugars of honey are dextrose and levulose. Let us consider their properties: Dextrose crystallizes; this is the material which you see in candied honey. Levulose, on the other hand, does not crystallize; it does not become solid; it assumes the form of a thick syrup; it is the sweetest constituent of honey; it is much sweeter than dextrose; further, we find by experiment and analyses that in the artificial drying of honey it is extremely subject to decomposition; consequently during the ordinary and usual methods of analyses employed, as I hope to show you, decomposition of levulose takes place, and its disappearance has been recorded by the analyst as water.

Farther on Prof. Shutt said:

Now, my contention is this, that what we have been supposing to be water, and water only, as passing off in the drying process, is really in part the decomposed products of the honey. The longer you heat it, and the higher the temperature, the greater the amount of caramelization, decomposition, or, in other words, loss. We estimate the water by the loss in drying, and if part of that loss is due to the decomposition of levulose, we get too much moisture.

The longer the honey-tube is in the drying oven the greater the loss—and the higher the percentage of water—apparently. If there were no decomposition we should be able to dry to a constant weight, but this we find impossible. This, in my opinion, furnishes the explanation of the results as they appear in this bulletin of the Inland Revenue. Some analysts have dried for 24 or 48 hours, and some have been attempting by still longer drying to get a constant weight. If there were no decomposition a constant weight should be obtainable. But the fact of the matter is that our experiments show you can go on drying these tubes for several days and still they lose weight. Day by day we weighed those tubes and put them back in the water oven, and there was always a loss. From the first weighings we calculated the percentage of water, and got numbers in the neighborhood of 14, 15, 16; after 12 hours more we obtained to 18, and then another 12 hours gave us 20 and 25 percent, and then continuing the percentages of loss went up to 28, 30, and 32. Evidently there was no stopping-place, and what we were calculating as water was really in large part due to the decomposition of the honey.

Absconding of Shaken or Brushed Swarms.

Fr. Greiner is afraid of absconding. He says 20 percent turn out to be failures. During more than 20 years I formed surely several hundred brushed swarms on the old stand as well as on new ones. Only one of them absconded, and settled like a natural swarm on a limb of a tree near by. It was a very strong colony, and I had given them one brood-comb and a very small space for brood-chamber, separated from the supers by a queen-excluder. I removed the brood-comb, enlarged the brood-chamber, and hived the swarm again, and everything went all right. Some years I had trouble from absconding of natural swarms; but with brushed swarms I never had any difficulty. Gravenhorst recommended removing the brood-comb the first day after forming the swarm. This may be true in his locality. Here I do not do it, and

have a trouble. Of more importance, it seems to me, it is to have the bees filled with honey and to give to the swarm sufficient room. I give them so much room that the bees can form a cluster like a swarm.—L. STACHENHAUSEN, in Gleanings in Bee-Culture.

Bulk Honey.

Referring to the claims of H. H. Hyde for bulk honey, Somnambulist says in the Progressive Bee-Keeper:

With one of his assertions, my experience leads me to disagree, namely, "When the consumer buys bulk comb honey he feels sure that he is getting a pure sweet, just as the bees made it."

Time after time have I been earnestly informed that the comb honey, so very attractive in itself, was surrounded by a mixture of glucose. Prospective buyers, and those not thinking of ever investing a penny in the alluring dainty, alike join forces against the innocent product, and equally innocent producer. Indeed, with this class of people section-honey is pronounced artificial honey, and consequently fraudulent.

CONVENTION NOTICE.

Illinois.—The spring meeting of the eastern part of the Northern Illinois Bee-Keepers' Association will be held at the residence of James Taylor, in Harlem, Winnebago Co., Ill., on Tuesday, May 19, 1903. All interested in bees are cordially invited to attend.

B. KENNEDY, Sec.



PAGE

Gold-Wire Fence

would not be worth as much as Page Fence to hold stock. It stretches like common fence wire. PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Please mention Bee Journal when writing.

Wanted.

A man to help in apary work. A good chance for one who wants practical experience in an apary of over 200 colonies. A young man preferred. Write, giving references and wages expected. N. STAININGER, Tipton, Iowa.

Please mention Bee Journal when writing.



In Olden Days

men were broken on the wheel, now they buy

Electric Steel Wheels, and save money. They fit any wagon. Made with either staggered or straight spokes. Let us tell you how to make a low down wagon with any size wheel, any width tire. Catalog tells. It's free. Electric Wheel Co., Box 16, Quincy, Ill.

Please mention Bee Journal when writing.

Take a Trip

over the Nickel Plate Road and be convinced of its superior train service. Solid through daily express trains between Chicago, Ft. Wayne, Findlay, Fostoria, Erie, Buffalo, New York City and Boston. American Club Meals, ranging in price from 35c. to \$1.00, served in Nickel Plate dining-cars; also service a la carte. Rates always the lowest. No excess fare charged on any train on the Nickel Plate Road. Chicago depot: Harrison St. and Fifth Ave. City Ticket Offices 111 Adams St. and Auditorium Annex. John Y. Calahan, General Agent, 113 Adams St., Room 298, Chicago. Phone Central 2057. 2—17A5t

Tip-Top Glass Honey-Jars



1-pound.



7-ounce.

The pictures shown herewith represent the best Jars for honey that we know of. They are made of the clearest flint glass, and when filled with honey, and neat labels attached, they make as handsome packages as can be



3/4-pound.

imagined. The glass top rests on a flat rubber ring, and is held in place by a flat steel spring across the top as shown. They are practically air-tight, thus permitting no leak, which is an important thing with honey-sellers.

We can furnish these Jars, f.o.b. Chicago, at these prices:

	1 gross.	2 gr.	4 gr.
1-lb. Jars	\$5.00	\$9.50	\$18.00
3/4-lb. "	4.50	8.50	16.50
7-oz. "	4.00	7.50	14.50

If you try them once you will likely use no other kind of top or sealing arrangement for honey-jars.

GEORGE W. YORK & CO.
144 & 146 E. Erie Street, CHICAGO, ILL.

Bee = Supplies

G. B. LEWIS CO.'S GOODS and everything necessary for handling bees. The very best of goods, and largest stock in Indiana. Low freight-rates. Catalog free.

C. M. SCOTT & CO.,

1004 E. Washington Street,
INDIANAPOLIS, IND.

49A26t

Wanted to Buy

unlimited quantities of ABSOLUTELY PURE BEESWAX. Must be nice. Best prices paid, either cash or in Supplies. Address at once,

C. M. SCOTT & CO.,

1004 E. Washington St., INDIANAPOLIS, IND.
15Atf Please mention the Bee Journal.

65 Best Queen of Sixty-five 65

BELLE PLAINE, MINN., April, 1903.
MR. ALLEY:—I have a queen received from you in 1900. Her bees are the best honey-gatherers of an apary of 65 colonies in which are queens from different breeders—natural queens—as Dr. Gallup calls them. The Adel queen is the best of the lot. C. J. OLDENBERG.

A Tested Adel Breeding Queen and my new book giving result of 40 years' experience in rearing queens, sent by mail for \$2.00. Warranted Adel queens, each, \$1.00. Safe arrival guaranteed. Send for price-list of queens and prospectus of book.

20Atf HENRY ALLEY, WENHAM, MASS.

Please mention Bee Journal
when writing Advertisers.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, May 7.—The past winter and present spring have been a disappointment to producers and dealers in honey, in that the consumption has been away below the average of the past decade. Choice to fancy comb is held at 15@16c per pound, with off grades at 2@5c less per pound. Extracted, white, 6@7c; ambers, 6@6½c; dark, 5½@6c. Beeswax in good demand at 32c. R. A. BURNETT & CO.

ALBANY, N. Y., Mar. 14.—Honey demand quiet; receipts and stock light. Comb selling, light, 15c; mixed, 14@15c; dark, 13@14c. Extracted, dark, at 7@7½c. Beeswax firm, 30@32c. H. R. WRIGHT.

KANSAS CITY, April 20.—The supply of comb honey is about exhausted. The demand good. We quote you as follows: Fancy white comb, 24 sections, per case, \$3.50; No. 1 white comb, 24 sections, \$3.40; No. 2, white and amber, per case, \$3.00@3.25. Extracted, white, per pound, 6@6½c; amber, 5½c. Beeswax, 25@30c. C. C. CLEMONS & Co.

CINCINNATI, Apr. 27.—Little demand for comb honey at present; fancy white sells at 15@16c in a small way. We quote amber extracted at 5½@6½c; white clover, 8@9c. Sales not as lively as expected this season of year. Cuban extracted is offered on all sides, and future prices are awaited with intense interest. Beeswax strong at 30c. THE FRED W. MUTH CO.

NEW YORK, May 8.—The market on honey is very quiet and very little doing, with more than sufficient supply on hand to meet the demand. Fancy stock of comb honey is well exhausted, while other grades are still plentiful and selling at 13 cents for No. 1, 12c for No. 2, and 11c for amber; no demand for buckwheat. Extracted remains quiet at unchanged prices. Beeswax firm at 31c. HILDEBETH & SMOLEK.

CINCINNATI, May 8.—The demand for comb honey is nearly over, but as the stock is almost exhausted, prices keep up. Fancy water-white brings 15@16c. The demand for extracted has not changed whatever, and prices are as follows: Amber in barrels, 5½@5¾c; in cans, 6@6½c; white clover, 8@8½c. Beeswax, 28@30c. C. H. W. WEBER.

SAN FRANCISCO, Apr. 29.—White comb honey, 12@12½c; amber, 9@10c; dark, 7@7½c. Extracted, white, 6½@7c; light amber, 5½@6c; amber, 5@5½c; dark, 4@4½c. Beeswax, good to choice, light, 27@29c; dark, 25@26c.

Last year's product has been tolerably well cleaned up, particularly the desirable stock. Present offerings are largely odds and ends, including little of fine quality. Values for the time being are little more than nominal. A lower range of prices is looked for on coming crop.

WANTED WHITE CLOVER EXTRACTED HONEY!

Send sample and best price delivered here; also Fancy Comb wanted in no-drip cases.

THE FRED W. MUTH CO.
32Atf Front and Walnut, CINCINNATI, OHIO.

If you want the Bee-Book

That covers the whole Apicultural Field more completely than any other published, send \$1.20 to

Prof. A. J. Cook, Claremont, Cal.,

FOR HIS

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

FREE FOR A MONTH

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper published in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP. CHICAGO, ILL.



SHEEP MONEY IS GOOD MONEY
if you work for us. We will start you in business and furnish the capital. Work light and easy. Send 10 cents for full line of samples and particulars.
DRAPER PUBLISHING CO., Chicago, Ills.

The Best Bee-Goods in the World....

are no better than those we make, and the chances are that they are not so good. If you buy of us **you will not be disappointed.** We are undersold by no one. Send for new catalog and price-list and free copy of THE AMERICAN BEE-KEEPER; in its thirteenth year; 50 cents a year; especially for beginners.

—THE—

W. T. Falconer Mfg. Co.,
JAMESTOWN, N. Y.

W. M. GERRISH, Epping, N.H., carries a full line of our goods at catalog prices. Order of him and save the freight.

A Few Cheap Smokers !

We find we have on hand a few slightly damaged Clark and Bingham Bee-Smokers, which got a little damp and soiled at the time of the fire in the building where we were about 2 years ago. They are all almost as good as new.

We have some of the Clark Cold Blast, which when new sell now at 55 cents each; some of the Large Bingham—new at 65 cents each; and some of the Little Wonder Bingham—new at 50 cents. But to close out those we have left that are slightly damaged, we will fill orders as long as they last at these prices:

Clark at 25 cents each; Little Wonder Bingham at 30 cents each; and Large Bingham at 40 cents each.

We do not mail any of these slightly damaged Smokers, but will put them in with other goods when ordered, or sell them here at our office when called for—at the above prices.

GEORGE W. YORK & CO.,

144 & 146 E. Erie Street. - CHICAGO, ILL.

Bee-Keepers, Remember

that the freight rates from Toledo are the lowest of any city in the U.S. We sell

Root's Supplies at their Factory Prices

Poultry Supplies and Hardware Implements a specialty. Send for our free Illustrated Catalog. Honey and Beeswax wanted.

GRIGGS BROS.,
214 Jackson Avenue,
TOLEDO, OHIO.

14A13t

Please mention the Bee Journal.



\$300,000,000.00 A YEAR
and you may have part of it if you work for us. Uncle Sam's poultry product pays that sum. Send 10c for samples and particulars. We furnish capital to start you in business. Draper Publishing Co., Chicago, Ill.

Special Notice to Bee-Keepers !

BOSTON

Money in Bees for You.
Catalog Price on

ROOT'S SUPPLIES

Catalog for the Asking.

F. H. FARMER,
182 Friend Street, Boston, Mass.
Up First Flight.

16A13t

Please mention the Bee Journal.

26th
Year

Dadant's Foundation

26th
Year

We guarantee Satisfaction. What more can anybody do? **BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED-PROCESS SHEETING.**

Why does it sell so well? Because it has always given better satisfaction than any other. Because in 25 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

Bee-Keepers' Supplies

OF ALL
KINDS *****



Very fine pure-bred **BARRED PLYMOUTH ROCK** Chickens and Eggs for sale at very low prices.

Langstroth on the Honey-Bee—Revised,

The classic in Bee-Culture—Price, \$1.20, by mail.

BEESWAX WANTED
at all times.

DADANT & SON,
Hamilton, Hancock Co., Ill

WAX PROFITS.

Many bee-keepers allow old combs and scraps of beeswax to collect, which, for lack of time and the proper utensils, is scattered or eaten up by moth-worms. A big item would be added to

the year's profits by the timely rendering of said wax by an economical process. We believe the press illustrated herewith fills a long-felt want in rendering wax.

B. Walker, Clyde, Ill., says:

"Was inclined to believe at first that the German wax-press was a failure; but after a thorough trial was well pleased. I secured 30 pounds more wax from one day's use of the machine than I would have secured by the ordinary method of rendering."

N. E. France, of Platteville, Wisconsin, State Inspector of Apiaries, and Gen. Mgr. National Bee-Keepers' Association—says:

"The German wax-press is by far the best machine or process to save wax from old, black brood-combs."



Fig. 169.—The Root-German Steam Wax-Press.
Price, \$14. Shipping weight, 70 lbs.

Manufactured by **THE A. I. ROOT CO., Medina, Ohio, U.S.A.**
BEESWAX WANTED.

GEORGE W. YORK & CO. 144 & 146 Erie Street, CHICAGO ILL., are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO. Send to them for their free Catalog.